The opinion in support of the decision being entered today was <u>not</u> written for publication and is <u>not</u> binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES
_____

<u>Ex parte</u> CHRISTOPH BALZ

_____

Appeal No. 1999-2688
Application No. 08/751,057

_____

ON BRIEF
_____

Before KRASS, LALL, and GROSS, <u>Administrative Patent Judges</u>.

KRASS, <u>Administrative Patent Judge</u>.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 2 and 4-7, all of the pending claims. Claim 3 has been canceled.

The invention is directed to a graphical display of IQ values on an IQ plane, the IQ values emitted at the output of a demodulator for quadrature-amplitude-modulated (QAM)

signals. In particular, a processor connected to the IQ

output of the demodulator determines an associated IQ value

address in a data memory for each IQ value and a respective

frequency is stored under each address of the data memory,

wherein the respective frequency is a frequency with which a

respective address, thereby the corresponding IQ value, has

been determined in a predetermined acquisition time. That is,

each address has stored thereunder, the number of times a

signal status occurs within a predetermined acquisition time.

The predetermined acquisition time is set by a control switch.

If the processor determines, within the predetermined time

span, that an IQ value is allocated to an address of the data

memory, and thereby to a respective pixel position, the

processor increases the content of that data memory address by

one. In this manner, under each address of the data memory is

stored the frequency with which this address, and thereby the

associated pixel, respectively occurs.

    Representative independent claim 1 is reproduced as

follows:

1. An arrangement for graphically
displaying, in an IQ plane on a screen of a
display device, IQ values emitted at an output
of a demodulator for quadrature-amplitude-
modulated signals, comprising:
    a data memory;
    a processor, that controls the display
device, connected to the data memory;
    a respective address of the data memory
allocated to each individual IQ value and a
respective pixel of the display device allocated
to each address of the data memory;
    the processor directly connected to the IQ
output of the demodulator, the processor
determining an associated IQ value address in
the data memory for each IQ value.; and
    a respective frequency stored under each
address of the data memory, the respective
frequency being a frequency with which a
respective address of the dates, and thereby the
corresponding IQ value, has been determined in a
predetermined acquisition time.

The examiner relies on the following reference:

Gray   5,479,606   Dec. 26,

                                                            1995

Additionally, the examiner relies on admitted prior art

[APA], ostensibly the admission, in the background section of

the instant specification, that it was known to display IQ

values emitted at the output of a demodulator for QAM signals.

Claims 1, 2 and 4-7 stand rejected under 35 U.S.C. § 103 as unpatentable over Gray in view of APA.

Reference is made to the brief and answer for the respective positions of appellant and the examiner.

OPINION

We reverse.

The only dispute between appellant and the examiner is with regard to the claimed "frequency" limitation.

It is the examiner's position that Gray teaches a respective frequency stored under each address. As evidence, the examiner cites column 6, lines 42-67, of Gray. The examiner contends that that section of the patent refers to an input complex data being converted into a pixel descriptor word and a pixel address word. Lines 54-56 of the cited portion does recite that the "frequency data is applied to the address multiplexer 24 so that frequency is available to determine data pixel position."

Appellant contends that whereas, in the instant
invention, "frequency" means how often the corresponding IQ
values occur during the predetermined time under each address,
in Gray, "frequency" is the frequency of a scan signal line
which can be calculated and displayed, as shown in Figures 3
or 4 of the patent [see page 6 of the brief]. Thus, it is
appellant's contention that Gray and the instant claimed
invention are not directed to the same "frequency."

While we cannot say, with certainty, that the frequency
discussed by Gray and that recited in the instant claims are,
indeed, the same, Gray does disclose, at lines 63-64 of column
6, that "data frequency can control pixel color." It appears
to us, from the disclosure at page 2 of the instant
specification, that appellant's invention also relates
frequency of data to pixel color. In view of these
disclosures and appellant's failure to point to anything
specific in Gray to convince us that Gray's frequency is
anything different than the frequency discussed, we do not
find appellant's observation regarding Gray's "frequency of a
scan signal line" [brief-page 6] convincing.

Even so, each of the instant claims requires that the respective frequency be "stored" under each address of the data memory and the examiner has not convincingly pointed to any suggestion, within Gray, for storing any "frequency" of IQ values. While we agree with the examiner that the look-up tables (LUT) of Gray are memories, it does not appear from Gray's disclosure that a "frequency" is stored in the LUT. Rather, the LUT converts complex data to 8 bit phase and magnitude data. The output of the LUTs, in Gray, can be made proportional to phase or frequency [column 6, lines 49-50], but while the LUT outputs may represent frequency values, there is no indication that Gray stores these frequency values, as does the instant claimed invention, and the examiner has pointed to nothing that would have suggested that it would have been obvious to do so.

Accordingly, the examiner's decision rejecting claims 1,

2 and 4-7 under 35 U.S.C. § 103 is reversed.

<u>REVERSED</u>

ERROL A. KRASS	)
Administrative Patent Judge	)
	)
	)
	)
	) BOARD OF PATENT
PARSHOTAM S. LALL	) APPEALS
Administrative Patent Judge	) AND
	) INTERFERENCES
	)
	)
	)
ANITA PELLMAN GROSS	)
Administrative Patent Judge	)

EAK/sld

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